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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-------------------------|---------------------|------------------|
| 10/657,959 | 09/09/2003 | William Anthony Windham | GCSD-1470 (51336) | 3042 |
| 27975 | 7590 | 05/03/2006 | EXAMINER | |
| ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. | | | TRINH, SONNY | |
| 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE | | | ART UNIT | |
| P.O. BOX 3791 | | | PAPER NUMBER | |
| ORLANDO, FL 32802-3791 | | | 2618 | |

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,959

Applicant(s)

WINDHAM ET AL.

Examiner

Sonny TRINH

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1-2, 4-8, 9-12, 14-17, 19-23** are rejected under 35 U.S.C. 102(b) as being anticipated by Sugano et al. (hereinafter "Sugano"; U.S. Patent number 5,381,404).

Regarding claim 1, Sugano discloses a method for routing message data from a source node to a destination node in a mobile ad hoc network comprising a plurality of intermediate mobile nodes between the source node and the destination node, and a plurality of wireless communication links connecting the nodes together (figures 2, 4, for further details please see descriptions), the method comprising: prioritizing the message data according to a type-of-service (ToS) (column 3 lines 12-35); discovering routes from the source node to the destination node; ranking the discovered routes according to quality of service (QoS); and distributing message data to the destination node on the discovered routes based upon the ToS of the message data and the QoS of the discovered routes, including distributing message data having a same ToS on multiple

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discovered routes, and distributing message data having higher priority ToS on higher ranked discovered routes (column 3 line 12 to column 4 line 39).

Regarding **claims 2, 4, 14** Sugano further discloses the determination of whether intermediate mobile nodes on discovered routes between the source node and the destination node are service sensitive nodes (such as congested nodes or bottleneck nodes (column 3 line 65 to column 4 line 13)).

Regarding **claim 5**, Sugano further discloses the ranking the discovered routes according to QoS includes determining an end-to-end delay of each discovered route (column 3 lines 36-58).

Regarding **claims 6, 15**, Sugano further discloses the ranking the discovered routes according to QoS includes measuring at least one of link delay (figures 5-7, column 1).

Regarding **claim 7**, Sugano further discloses the storing of route entries in a route cache, each route entry corresponding to one of the discovered routes (column 6 lines 12-45).

Regarding **claims 8, 12**, Sugano further discloses message data having higher priority ToS comprises delay sensitive message data and large volume message data (such as voice and data (columns 14-15)).

Regarding **claims 9-11**, these claims are substantially the same claims 1-2 with wording variations only and are rejected for the same reasons.

Regarding **claims 16-17, 19-23**, these claims are the apparatus claims as opposed to the method claim of claims 1-2, 4-8 (respectively) and are therefore rejected for the same reasons.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 3, 13, 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugano et al. (hereinafter "Sugano"; U.S. Patent number 5,381,404) in view of Naghian et al. (hereinafter "Naghian", U.S. Patent Number 6,879,574).

Regarding **claims 3, 13**, Sugano discloses the invention as specified in claim 2 but does not disclose that the service sensitive nodes comprise power critical nodes.

In an analogous art, Naghian teaches a mobile mesh ad-hoc networking (abstract). Naghian further discloses the service sensitive nodes comprise power critical nodes (column 11, lines 7-15).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to consider the power critical node, as taught by Naghian, in order to choose the best node that is not overloaded (power drain) for a more reliable route.

Regarding **claim 18** this claim is the apparatus claims as opposed to the method claim of claim 3 and is therefore rejected for the same reasons.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sonny TRINH whose telephone number is 571-272-7927. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward URBAN can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SONNY TRINH
PRIMARY EXAMINER

4/25/06